

WHAT IS CLAIMED IS:

1. A central processing unit, comprising:
 - an operation mode storing unit that stores at least one first operation mode from among a plurality of second operation modes;
 - 5 a usable command storing unit that stores at least one command corresponding to the at least one first operation mode stored as at least one usable command;
 - an operation mode adding/setting unit that adds into the operation mode storing unit a dynamically specified operation mode
 - 10 from the second operation modes, and sets in the usable command storing unit the at least one command corresponding to the operation mode added; and
 - a firmware acquiring unit that acquires from outside, firmware that corresponds to the at least one first operation mode stored and
 - 15 that is used for executing the at least one usable command.
2. The central processing unit according to claim 1, wherein the firmware acquiring unit acquires encrypted firmware from the outside, and decrypts the encrypted firmware.
- 20 3. The central processing unit according to claim 1, wherein the firmware acquiring unit acquires digitally signed firmware from the outside, and authenticates the firmware.
- 25 4. The central processing unit according to claim 1, further

comprising an access control unit that controls access to resources,
which are required during execution of the at least one usable
command corresponding to the at least one first operation mode.

5 5. The central processing unit according to claim 1, wherein if
number of the at least one usable command corresponding to the
dynamically specified operation mode is greater than number of the at
least one usable command corresponding to the at least one first
operation mode stored, the operation mode adding/setting unit adds
10 into the operation mode storing unit the dynamically specified operation
mode, and sets in the usable command storing unit the at least one
command corresponding to the operation mode added.

6. The central processing unit according to claim 1, further
15 comprising:
 an operation mode deleting unit that deletes from the operation
mode storing unit a dynamically specified operation mode from the at
least one first operation mode stored; and

 a firmware deleting unit that deletes firmware corresponding to
20 the operation mode deleted.

7. The central processing unit according to claim 1, further
comprising an execution request unit that requests an external
emulator to execute the at least one usable command corresponding to
25 the at least one first operation mode stored, if an error occurs during

execution of the at least one usable command.

8. A central processing unit, comprising:

- an operation mode storing unit that stores at least one first
5 operation mode from among a plurality of second operation modes;
a usable command storing unit that stores at least one
command corresponding to the at least one first operation mode stored
as at least one usable command;
an operation mode adding/setting unit that adds into the
10 operation mode storing unit a dynamically specified operation mode
from the second operation modes, and sets in the usable command
storing unit a command corresponding to the operation mode added;
and
a logic circuit data acquiring unit that acquires logic circuit data
15 from the outside for generating a logic circuit that corresponds to the at
least one first operation mode stored and that is used for executing the
at least one usable command.

9. The central processing unit according to claim 8, further

- 20 comprising a logic circuit generating unit that dynamically generates a
logic circuit based on the logic circuit data corresponding to the at least
one usable command, when the at least one usable command is
executed.

- 25 10. A computer program that makes a computer execute:

storing at least one first operation mode from among a plurality of second operation modes;

storing at least one command corresponding to the at least one first operation mode stored as at least one usable command;

5 adding a dynamically specified operation mode from the second operation modes, and setting a command corresponding to the operation mode added; and

acquiring from outside, firmware that corresponds to the at least one first operation mode stored and that is used for executing the at
10 least one usable command.

11. The computer program according to claim 10, wherein the acquiring includes acquiring encrypted firmware from the outside, and decrypting the encrypted firmware.

15

12. The computer program according to claim 10, wherein the acquiring includes acquiring digitally signed firmware from the outside, and authenticating the firmware.

20 13. The computer program according to claim 10, further making the computer execute controlling access to resources, which are required during execution of the at least one usable command corresponding to the at least one first operation mode.

25 14. The computer program according to claim 10, wherein if number

of the at least one usable command corresponding to the dynamically specified operation mode is greater than number of the at least one usable command corresponding to the at least one first operation mode stored, the operation mode adding/setting unit adds into the operation mode storing unit the dynamically specified operation mode, and sets in
5 the usable command storing unit the at least one command corresponding to the operation mode added.

15. The computer program according to claim 10, further making the
10 computer execute:

deleting from the operation mode storing unit a dynamically specified operation mode from the at least one first operation mode stored; and

deleting firmware corresponding to the operation mode deleted.

15

16. The computer program according to claim 10, further making the computer execute making a request to an external emulator to execute the at least one usable command corresponding to the at least one first operation mode stored, if an error occurs during execution of the at
20 least one usable command.